



State of New Mexico
ENVIRONMENT DEPARTMENT



BILL RICHARDSON
GOVERNOR

Air Quality Bureau
2048 Galisteo St.
Santa Fe, NM 87505
Phone (505) 827-1494
Fax (505) 827-1523
www.nmenv.state.nm.us

RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL NO. 7003 0500 0005 1472 3540
RETURN RECEIPT REQUESTED

Permittees:

Owner: U.S. Department of Energy
Operator: Board of Regents of the University of California
Los Alamos National Laboratory
P.O. Box 1663, MS J978
Los Alamos, New Mexico 87545
NSR Air Quality Permit No. 2195-N
CMRR Facility
TEMPO No. 856 – PRN 20050001

Company Official:

David Fuehne
Acting Group Leader

Mary Uhl
Acting Bureau Chief
Air Quality Bureau

SEP 16 2005

Date of Issuance

Air Quality Permit No. 2195-N is issued by the Air Quality Bureau of the New Mexico Environment Department (Department) to Los Alamos National Laboratory pursuant to the Air Quality Control Act (Act) and regulations adopted pursuant to the Act including Title 20, Chapter 2, Part 72 of the New Mexico Administrative Code (NMAC), (20.2.72 NMAC), Construction Permits and is enforceable pursuant to the Act and the air quality control regulations applicable to this source.

This permit authorizes the construction and operation of phases A and B of the Chemistry and Metallurgy Research Building Replacement ("CMRR") facility. This facility consists of the Radiological Laboratory/Office Building ("RLOB") and the Utility Building ("UB"). Together, the two buildings are identified as the RLUOB. The function of the UB is to provide utility infrastructure and support to the CMRR facility. This facility is located in Township 19 N, Range 6E, Section 22, approximately three miles south of Los Alamos, New Mexico in Los Alamos County.

The Department has reviewed the permit application for the proposed construction and has determined that the provisions of the Act and ambient air quality standards will be met. Conditions have been imposed in this permit to assure continued compliance. 20.2.72.210. D NMAC states that any term or condition imposed by the Department on a permit is enforceable to the same extent as a regulation of the Environmental Improvement Board.

Pursuant to 20.2.75.11 NMAC, the Department will assess an annual fee for this facility. This regulation set the fee amount at \$1,500 through 2004 and requires it to be adjusted annually for the Consumer Price Index on January 1. The current fee amount is available by contacting the Department or can be found on the Department's website. The AQB will invoice the permittee for the annual fee amount at the beginning of each calendar year. This fee does not apply to sources which are assessed an annual fee in accordance with 20.2.71 NMAC.

All fees shall be remitted in the form of a corporate check, certified check, or money order made payable to the "NM Environment Department, AQB" mailed to the address shown on the invoice and shall be accompanied by the remittance slip attached to the invoice.

The facilities authorized to be constructed by this permit are considered to be "New Source(s)" as defined by 20.2.72.401 NMAC as the authority to construct them is after December 31, 1988 and they are not integrally related with and integrally connected to the process of an existing source. As described by the application, "the new CMRR facility will replace a significant existing building at LANL – the Chemistry and Metallurgy Research Building located at Technical Area (TA)-3.

It is not presently intended for this facility to use perchloric acid in any of its operations in Phase A and B of the CMRR Building project. Perchloric acid is not regulated under the Act.

The permittee is advised that the decommissioning, decontamination, demolition, and disposal of the old Chemistry and Metallurgy Research (CMR) building must be done in accordance with the requirements for asbestos in 40 CFR 61, Subpart M.

40 CFR Part 61 Subpart H applies to radioactive emissions. Subpart H is administered by the federal EPA. LANL included language specifying a HEPA filter in the exhaust of the Radiological Laboratory/Office Building (Phase A) in its application to EPA for preconstruction approval of this building, and EPA approved the language with the specification for a HEPA filter included.

TOTAL EMISSIONS

The total potential emissions from this facility, excluding exempted activities, are shown in the following table. Emission limitations for individual units are shown in Specific Condition 2.

Total Potential Criteria Pollutant Emissions from Entire Facility (for information only, not an enforceable condition):

| Pollutant | Emissions (tons per year) |
|----------------------------------|----------------------------------|
| Nitrogen Oxides (NOx) | 18 |
| Carbon Monoxide (CO) | 25 |
| Volatile Organic Compounds (VOC) | 4 |
| Sulfur Oxides (SOx) | 12 |
| Particulate Matter | 3 |

SPECIFIC CONDITIONS

Pursuant to 20.2.72 NMAC, and the specific regulatory citations in parenthesis, the facility is subject to the following conditions.

1. Construction and Operation
(20.2.72.210 NMAC; NSPS 40 CFR 60, Subpart Dc)
 - a) The equipment regulated by this permit consists of

Table 1.1: Regulated Equipment List

| Unit No. | Unit Description | Make Model | Serial No. | Capacity | Manufacture Date | Other |
|-----------------|-------------------------|-------------------|-------------------|-----------------|-------------------------|--------------|
| B-1 | Boiler | TBD | TBD | 11 MMBtu/hr | TBD | Dual Fuel |
| B-2 | Boiler | TBD | TBD | 11 MMBtu/hr | TBD | Dual Fuel |
| B-3 | Boiler | TBD | TBD | 11 MMBtu/hr | TBD | Dual Fuel |
| B-4 | Boiler | TBD | TBD | 11 MMBtu/hr | TBD | Dual Fuel |
| B-5 | Boiler | TBD | TBD | 11 MMBtu/hr | TBD | Dual Fuel |
| CU-1 | Chemical Usage | NA | NA | NA | NA | NA |

- b) This facility is authorized to operate on a continuous basis.
 - c) Each boiler may be fired either using pipeline quality natural gas or No. 2 fuel oil. However, combined annual fuel oil boiler consumption shall not exceed 289,100

gallons. Compliance with the fuel oil consumption limit shall be determined using a rolling 365-day total.

- d) Units B-1 – B-5 shall each be equipped with Low NOx burners designed not to exceed 30 ppm when fired using natural gas.
- e) This facility is subject to all applicable requirements including, but not limited to, the following regulations:

Table 1.2: applicable requirements

| Citation | Title |
|---------------------------|---|
| 40 CFR Part 60, Subpart A | General Provisions |
| 40 CFR Part 60 Subpart Dc | Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units |
| 40 CFR 61, Subpart H | US EPA is the Administrator of this rule in New Mexico. |
| 20.2.3 NMAC | Ambient Air Quality Standards |
| 20.2.7 NMAC | Excess Emissions During Malfunction |
| 20.2.61 NMAC | Smoke and Visible Emissions |
| 20.2.70 NMAC | Operating Permits |
| 20.2.71 NMAC | Operating Permit Fees |
| 20.2.72 NMAC | Construction Permits |
| 20.2.73 NMAC | NOI & Emissions Inventory Requirements |
| 20.2.75 NMAC | Construction Permit Fees |
| 20.2.77 NMAC | New Source Performance Standards |

- f) Units B1-B5 are subject to federal New Source Performance Standards (NSPS) found in 40 CFR 60, Subpart A - General Provisions, and Subpart Dc- Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units and shall comply with both the notification requirements in Subpart A and with the specific requirements of Subpart Dc.
- g) LANL shall obtain a prior permit modification from NMED for the use of any lubricant or chemical that contains any toxic air pollutant (“TAP”) listed in 20.2.72.502 NMAC if that TAP is emitted in quantities greater than the emissions in pounds per hour value stated in 20.2.72.502 NMAC, Table A or B. LANL may apply the appropriate Stack Height Release Correction Factor as provided for by 20.2.72.502 NMAC, Table C.
- h) Boiler fuel oil shall not contain more than 0.5 percent sulfur by weight.

2. Emission Limits (20.2.72.210 NMAC, paragraphs A and B.1.b; NSPS 40 CFR 60, Subparts A and Dc)

Table 2.1: Allowable Emissions

| Unit No | TSP | | PM10 | | NOx ¹ | | CO | | SOx ² | | NOx |
|--------------------------------|-----|-----|------|-----|------------------|------|-----|------|------------------|------|-----|
| | pph | tpy | pph | tpy | pph | tpy | pph | tpy | pph | tpy | ppm |
| B1-GAS | 0.1 | 0.4 | 0.1 | 0.4 | 0.7 | 2.9 | 1.1 | 4.8 | 0.1 | 0.3 | 30 |
| B1-OIL | 0.3 | NA | 0.2 | NA | 1.6 | NA | 0.5 | NA | 5.8 | NA | NA |
| B2-GAS | 0.1 | 0.4 | 0.1 | 0.4 | 0.7 | 2.9 | 1.1 | 4.8 | 0.1 | 0.3 | 30 |
| B2-OIL | 0.3 | NA | 0.2 | NA | 1.6 | NA | 0.5 | NA | 5.8 | NA | NA |
| B3-GAS | 0.1 | 0.4 | 0.1 | 0.4 | 0.7 | 2.9 | 1.1 | 4.8 | 0.1 | 0.3 | 30 |
| B3-OIL | 0.3 | NA | 0.2 | NA | 1.6 | NA | 0.5 | NA | 5.8 | NA | NA |
| B4-GAS | 0.1 | 0.4 | 0.1 | 0.4 | 0.7 | 2.9 | 1.1 | 4.8 | 0.1 | 0.3 | 30 |
| B4-OIL | 0.3 | NA | 0.2 | NA | 1.6 | NA | 0.5 | NA | 5.8 | NA | NA |
| B5-GAS | 0.1 | 0.4 | 0.1 | 0.4 | 0.7 | 2.9 | 1.1 | 4.8 | 0.1 | 0.3 | 30 |
| B5-OIL | 0.3 | NA | 0.2 | NA | 1.6 | NA | 0.5 | NA | 5.8 | NA | NA |
| All boilers - OIL ³ | NA | 0.5 | NA | 0.3 | NA | 2.9 | NA | 0.9 | NA | 10.4 | NA |
| Total | 1.5 | 2.5 | 1.0 | 2.3 | 8.0 | 17.4 | 5.5 | 24.9 | 29.0 | 11.9 | NA |

¹ Nitrogen dioxide emissions include all oxides of nitrogen expressed as NO₂

² Sulfur dioxide emissions include all oxides of sulfur expressed as SO₂

³TPY emission cap for any combination of oil fired boilers

a) Volatile Organic Compound Emissions

Volatile Organic Compound Emissions from CU-1 shall not exceed 3.75 tons per year. VOC boiler emissions are considered to be negligible (e.g. 0.1 lbs/hr) and are not enforceable limits.

3. Monitoring
(20.2.72.210.C NMAC; NSPS 40 CFR 60, Subparts A and Dc)

The permittee shall:

- a) Monitor natural gas consumption on a monthly basis and fuel oil consumption on a daily basis when fuel oil is used for each boiler.
- b) Assure fuel oil received by the facility is compliant with the sulfur requirement stated by permit condition 1(h).
- c) Evaluate visible emissions in accordance with EPA Reference Method 9 for at least ten (10) minutes each day fuel oil is used to fire a boiler(s) to demonstrate

compliance with the visible emissions requirement specified by 20.2.61 – Smoke and Visible Emissions.

4. Recordkeeping

(20.2.72.210.E NMAC; NSPS 40 CFR 60, Subparts A and Dc)

The permittee shall generate and maintain records:

- a) Required by 40 CFR 60, Subparts A and Dc including those specified by 60.48c(f)(1), (g) and (i).
- b) Of the visible emission readings required by condition 3(c).
- c) Of the type and quantity of chemicals and lubricants used, as allowed by this permit, including calculated VOC and TAP emissions from such use, on a rolling twelve-month total.

5. Reporting

(20.2.72 NMAC, Sections 210.E, and 212; NSPS 40 CFR 60, Subparts A and Dc)

The permittee shall:

- a) Submit reports as required by 40 CFR 60, Subparts A and Dc, including those specified by 60.48c(a)1-3 and 60.48c (d), (e)(11), (f)(1), and (j). LANL may submit the fuel supplier certification information on an annual basis in lieu of the semi-annual requirement specified by Subpart Dc because fuel oil usage is expected to be minimal based on permit condition 1(c).
- b) Submit manufacturer's data verifying that each boiler is equipped with Low NOx burners thirty (30) days prior to start-up of the boilers.
- c) Submit a summary of the VOC and TAP information required in condition 4.c by April 1 of each year.

6. Compliance Test

(20.2.72 NMAC Sections 210.C and 213; NSPS 40 CFR 60, Subparts A and Dc)

- a) Initial compliance tests for NOx, CO and TSP (oil fired only) and PM₁₀ (oil fired only) are required for the first three boilers listed in Table 1.1 that are installed, if all five are of the same make and model. If they are not of the same make and model, each boiler shall be subject to initial compliance tests. Each boiler shall be tested using natural gas and fuel oil.

Compliance tests may be re-imposed if it is deemed necessary by the Department to determine whether the source is in compliance with applicable regulations or permit conditions.

- b) Boiler tests shall be conducted within sixty (60) days after each unit achieves The results of the NOX tests shall be expressed as nitrogen dioxide (NO₂) using a molecular weight of 46 lb/lb-mole in all calculations (each ppm of NO/NO₂ is equivalent to 1.194×10^{-7} lb/SCF).

Enclosure: Industry/Consultant Feedback Questionnaire with envelope

GENERAL CONDITIONS

1. Reporting

(20.2.72 NMAC Sections 210.E, and 212)

- a) The Permittee shall notify the Department in writing of or provide the Department with:
 - i) the anticipated date of initial startup of each new or modified source not less than thirty (30) days prior to the date;
 - ii) the equipment serial number and the actual date of initial startup of each new or modified source within fifteen (15) days after the startup date;
 - iii) the date when each new or modified emission source reaches the maximum production rate at which it will operate within fifteen (15) days after that date;
 - iv) any change of operators within fifteen (15) days of such change;
 - v) any necessary update or correction no more than sixty (60) days after the operator knows or should have known of the condition necessitating the update or correction of the permit.

2. Revisions and Modifications

(20.2.72 NMAC, Sections 200.A.2 and E, and 210.B.4)

Any future physical changes or changes in the method of operation may constitute a modification as defined by 20.2.72 NMAC, Construction Permits. Unless the source or activity is exempt under 20.2.72.202 NMAC, no modification shall begin prior to issuance of a permit.

Changes in plans, specifications, and other representations stated in the application documents shall not be made if they cause a change in the method of control of emissions or in the character of emissions, or will increase the discharge of emissions. Any such proposed changes shall be submitted as a revision or modification.

Modifications or revisions to this permit shall be processed in accordance with 20.2.72 NMAC.

3. Notification to Subsequent Owners

(20.2.72 NMAC, Sections 7.P.1 and 212.C)

The permit and conditions apply in the event of any change in control or ownership of the facility. No permit modification is required in such case. However, in the event of any such

change in control or ownership, the permittee shall notify the succeeding owner of the permit and conditions and shall notify the Department of the change in ownership within fifteen (15) days of that change.

Any new owner or operator shall notify the Department, within thirty (30) days of assuming ownership, of the new owner's or operator's name and address.

4. Right to Access Property and Review Records
(NMSA 1978, Section 74-2-13)

The Department shall be given the right to enter the facility at all reasonable times to verify the terms and conditions of this permit. The company, upon either a verbal or written request from an authorized representative of the Department, shall produce any records or information necessary to establish that the terms and conditions of this permit are being met.

5. Posting/Retention of the Permit

A copy of this permit shall be posted at the plant site or retained at the plant site at all times and shall be made available to Department personnel for inspection upon request.

6. Permit Cancellations
(20.2.72.211 NMAC)

- a) The Department shall automatically cancel any permit for any source which ceases operation for five (5) years or more, or permanently. Reactivation of any source after the five (5) year period shall require a new permit.
- b) The Department may cancel a permit if the construction or modification is not commenced within two (2) years from the date of issuance or if, during the construction or modification, work is suspended for a total of one (1) year.

7. Pursuant to 20.2.72.210.A NMAC, the contents of a permit application specifically identified by the Department shall become the terms and conditions of the permit or permit revision. Unless modified by conditions of this permit, the applicant shall construct or modify and operate the facility in accordance with all representations of the application and supplemental submittals that the Department relied upon to determine compliance with applicable regulations and ambient air quality standards. If the Department relied on air quality modeling to issue this permit, any change in the parameters used for this modeling shall be submitted to the Department for review. Upon the Department's request, the applicant shall submit additional modeling for review by the Department. Results of that review may require a permit modification.

8. Prior to any asbestos demolition or renovation work, the permittee shall determine whether 40 CFR 61, Subpart M, National Emission Standard for Asbestos applies.
9. For engines or turbines equipped with catalytic converters and/or air fuel ratio controllers, or similar device which performs the same function of maintaining appropriate air and fuel ratios, records shall be made and maintained by the owner or operator for a period of at least two (2) years from the date of generation and a summary of quarterly reports shall be submitted to the Department annually, which:
 - a) For each air fuel ratio (AFR) controlling type device, demonstrate that the manufacturer's or supplier's recommended maintenance is performed, including replacement of oxygen sensor as necessary for oxygen-based controllers. Verification of proper operation of the controller shall be demonstrated at least quarterly by measuring and recording exhaust oxygen or NO_x concentrations with a properly calibrated portable analyzer as specified in the most current version of the SOP for "Use of Portable Analyzers in Performance Tests".
 - b) For any engine equipped with a catalytic converter, demonstrate the maintenance of the NO_x and CO reduction efficiency across the catalyst bed. This test shall be performed within ninety (90) days following initial startup and on a quarterly basis thereafter, unless an alternative testing schedule is specified by the department. Properly calibrated portable analyzers are acceptable for this demonstration. The test shall be conducted at ninety percent (90%) or greater of full load and shall include the exhaust volume flow rate (dscf) and the NO_x and CO emission rate (lb/hr).
10. For engines equipped with catalytic converters, the engine shall not be operated without the catalytic converter, specifically including catalyst maintenance periods. During periods of catalyst maintenance, the permittee shall either (1) shut down the engine(s); or (2) replace the catalyst with a functionally equivalent spare to allow the engine to remain in operation.
11. Flares used to comply with the NSPS (e.g. 40 CFR 60, Subpart GGG, KKK and VV) requirements for VOC leaks shall be tested in accordance with the requirements contained in 40 CFR 60, Subpart A, General Provisions, paragraph 60.8 (performance tests) and 60.18 (general control device requirements).
12. Except as provided in the Specific Conditions, records shall be maintained on-site for a minimum of two (2) years from the time of recording and shall be made available to Department personnel upon request.
13. If this permit requires any compliance testing, the owner or operator shall notify the Department at least thirty (30) days prior to the test date and allow a representative of the Department to be present at the test. The permittee shall submit a testing protocol to the

Department at least thirty (30) days prior to the test date and shall observe the following testing procedures:

- a. The test protocol and compliance test report shall conform to the standard format specified by the Department. The most current version of the format may be obtained from the Enforcement and Compliance Section of the Air Quality Bureau.
- b. Pursuant to 20.2.72.210.C NMAC, for combustion sources with stacks, the permittee shall also provide a one-quarter (1/4) inch stainless steel sampling line adjacent to the sampling ports and extending down to within four (4) feet above ground level to provide access for future audits. The line shall extend into the stack a distance of 1/4 the stack diameter, but not less than one inch from the stack wall. The sampling line shall be maintained clear of blockage at all times. This line shall be in place at the time of any required compliance tests. For any source for which compliance tests are not required or for previously existing sources this line shall be installed no later than one hundred and eighty (180) days from the date of this permit.
- c. As an alternative, the owner or operator may provide a portable sampling line that is readily available which allows the Department to safely obtain representative stack gas samples at the time of compliance audits or site inspections.
- d. A physical configuration of the facility that conforms to the emissions testing requirements of 20.2.72.210.C NMAC and of 40 CFR 60.8(e), which is imposed under the authority of 20.2.72.210.C.4 NMAC.

ADDITIONAL REQUIREMENTS

Applications for permit revisions and modifications shall be submitted to:

Program Manager, Permits Section
New Mexico Environment Department
Air Quality Bureau
2048 Galisteo
Santa Fe, New Mexico 87505

Compliance test protocols, regularly scheduled reports, a copy of the test results, and excess emission reports, shall be submitted to:

Program Manager, Compliance and Enforcement Section
New Mexico Environment Department
Air Quality Bureau
2048 Galisteo
Santa Fe, New Mexico 87505

REVOCATION

The Department may revoke this permit if the applicant or permittee has knowingly and willfully misrepresented a material fact in the application for the permit. Revocation will be made in writing, and an administrative appeal may be taken to the Secretary of the Department within thirty (30) days. Appeals will be handled in accordance with the Department's Rules Governing Appeals From Compliance Orders.

APPEAL PROCEDURES

20.2.72.207.F NMAC provides that any person who participated in a permitting action before the Department and who is adversely affected by such permitting action, may file a petition for hearing before the Environmental Improvement Board. The petition shall be made in writing to the Environmental Improvement Board within thirty (30) days from the date notice is given of the Department's action and shall specify the portions of the permitting action to which the petitioner objects, certify that a copy of the petition has been mailed or hand-delivered and attach a copy of the permitting action for which review is sought. Unless a timely request for hearing is made, the decision of the Department shall be final. The petition shall be copied simultaneously to the Department upon receipt of the appeal notice. If the petitioner is not the applicant or permittee, the petitioner shall mail or hand-deliver a copy of the petition to the applicant or permittee. The Department shall certify the administrative record to the board. Petitions for a hearing shall be sent to:

Environmental Improvement Board
1190 St. Francis Drive, Runnels Bldg.
P.O. Box 26110
Santa Fe, New Mexico 87502



BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

New Mexico
ENVIRONMENT DEPARTMENT

Air Quality Bureau
1301 Siler Road, Building B
Santa Fe, NM 87507-3113
Phone (505) 476-4300
Fax (505) 476-4375
www.nmenv.state.nm.us



RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

December 20, 2007

Dianne Wilburn
Administrator
U.S. Department of Energy National
Nuclear Security Administration
PO Box 1663
MS J978
Los Alamos, NM 87545

Administrative Permit Revision
20.2.72.219.A.1 NMAC
NSR No. 2195NR1
IDEA ID No. 856 - PRN20070010
Los Alamos National Laboratory
AIRS No. 350280001

Dear Ms. Wilburn:

This letter is to acknowledge your letter of 12/11/2007 to revise Air Quality Permit 2195NR1 for U.S. Department of Energy National Nuclear Security Administration, Los Alamos National Laboratory. This revision is pursuant to Title 20 of the New Mexico Administrative Code Chapter 2 Part 72 (20.2.72 NMAC) Construction Permits Section 219.A.1. This facility is located approximately ten miles west of Los Alamos in Los Alamos County, New Mexico. This administrative revision for Facility ID 856 consists of processing exempt sources: (3) three 1500 kW Cummins diesel powered generators to be located at Technical Area 55, Chemistry and Metallurgy Research Replacement Facility (CMRR). The request was received by the New Mexico Environment Department's Air Quality Bureau (Department) on December 11, 2007.

A review of the information you submitted confirms that the requirements specified in 20.2.72 NMAC, Construction Permits, Permit Processing and Requirements, Section 219.A are met.

20.2.72.219.A.3 NMAC specifies that administrative permit revisions become effective upon receipt of the notification by the Department.

This letter shall be attached to Air Quality Permit No. 2195N issued by the Department on 9/16/2005 to serve as acknowledgment by the Department that this administrative permit revision is authorized.

If you have any questions, please do not hesitate to contact me in Santa Fe at 505-476-4355.

Sincerely,

A handwritten signature in cursive script that reads "Teri Waldron". The signature is fluid and includes a long, sweeping tail at the end.

Teri Waldron
New Source Review Unit
Permitting Section